

REMARKS

Applicants respectfully request the Examiner to reconsider the present application in view of the foregoing amendments to the claims and the following remarks.

Status of the Claims

The Office Action Summary page, and page 1, indicate that claims 1-18, 20, 24-31 and 36 are currently pending in the present application, and that claims 24-29 have been withdrawn from further consideration as directed to a non-elected invention. **However, referring to the Amendment filed October 31, 2008, it is apparent that the claims pending in the application at the time of issuance of the Office Action, were claims 1-9, 13-18, 20, 24-31 and 36; and that claims 16, 18 and 25-29 were withdrawn from consideration as being directed to non-elected subject matter (see the Office Action of August 1, 2008).**

Claims 1 and 30 have been amended to further define and clarify the invention.

Based upon the above considerations, entry of the present amendment is respectfully requested.

Issue Under 35 U.S.C §112, Second Paragraph, Indefiniteness

Claims 30, 31 and 36 stand rejected under 35 U.S.C. §112, second paragraph as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter Applicants regard as the invention. Applicants respectfully traverse.

Although Applicants disagree, in order to further prosecution, Applicants have amended claim 30 to “a solution of a hydroxide of an ion selected from the group consisting of Na^+ , K^+ and NH_4^+ .” The ion H_3O^+ was removed from the claim. Applicants submit amended claim 30 particularly points out and distinctly claims the subject matter which they regard as their invention. This is also the case for claims 31 and 36 that ultimately depend from claim 30.

Applicants respectfully request reconsideration and withdrawal of the present rejection.

Issue Under 35 U.S.C. §§ 102(b) or 103(a), Anticipation, or in the alternative, Obviousness

Claims 1-18, 20 and 24 stand rejected under 35 U.S.C. § 102(b) as anticipated by, or in the alternative, obvious under 35 U.S.C. § 103(a) over Akira *et al.*, JP-10-273324 (hereinafter “Akira”). Applicants respectfully traverse this rejection.

The Examiner states that Akira discloses amorphous compounds of the general formula to be useful in anion exchange. The Examiner also states that the formula of Akira overlaps the formula of the present application except that the Akira does not include a M_a component. Additionally, the Examiner asserts that Akira’s compounds are produced by co-precipitating salts in the presence of an alkaline compound and heating the precipitate at temperatures that overlap Applicants’ temperatures. Further, the Examiner asserts that although M_a is not included in the Akira formula, since the products of the present invention are made the same way as in Akira, M_a is included in the Akira compounds. Applicants respectfully disagree.

Although Applicants disagree with the Examiner’s assertions, in order to advance prosecution, claims 1 and 30 have been amended, to “a solution of a hydroxide of the ion selected

from the group consisting of Na^+ , K^+ and NH_4^+ .” The ion H_3O^+ was removed from the claims. Additionally, claim 30 was amended to a method of producing organic acid anions containing aluminum salt hydroxide particles of claim 1.

Applicants submit that the particles of the Akira reference are produced by reacting ZrCl_2 , $\text{Al}_2(\text{SO}_4)_3$ and $\text{Mg}(\text{OH})_2$ to obtain a co-precipitation product and thereafter heating the co-precipitation product in an autoclave (as illustrated in Example 1).

In contrast, the present invention contains Na^+ , K^+ and NH_4^+ . Akira does not contain any of these components. Since Akira is silent regarding “a solution of a hydroxide of an ion selected from the group consisting of Na^+ , K^+ and NH_4^+ ,” it does not teach the present invention.

Because “a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference,” the Akira reference cannot be a basis for a rejection under § 102(b). See *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See MPEP 2131 – To Anticipate a Claim, the Reference Must Teach Every Element of the Claim.

With regard to the alternative rejection under 35 U.S.C. § 103(a), *Graham v. John Deere*, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), has provided the controlling framework for an obviousness analysis. A proper analysis under § 103(a) requires consideration of the four *Graham* factors of: determining the scope and content of the prior art; ascertaining the differences between the prior art and the claims that are at issue; resolving the level of ordinary skill in the pertinent art; and evaluating any evidence of secondary considerations (e.g., commercial success; unexpected results). 383 U.S. at 17, 148 USPQ at 467.

M.P.E.P. § 2143 sets forth the guidelines in determining obviousness. But before the Examiner can utilize these guidelines, the Examiner has to take into account the factual inquiries set forth in *Graham v. John Deere; supra*. To reject a claim based on the above mentioned guidelines, the Examiner must resolve the *Graham* factual inquiries. MPEP §2143.

If the Examiner resolves the *Graham* factual inquiries, then the Examiner has to provide some rationale for determining obviousness, wherein M.P.E.P. § 2143 sets forth the rationales that were established in *KSR Int'l Co. v Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007).

Applicants respectfully submit that the Examiner has not appropriately resolved the *Graham* factors, including the factors of determining the scope and content of the prior art and ascertaining the differences between the prior art and the claims that are at issue. Based on the following, Applicants maintain that the above-mentioned *Graham* factors actually work in Applicants' favor. Additionally, Applicants submit that since the Examiner did not resolve the *Graham* factors, the rationale the Examiner provides is improper.

Applicants respectfully submit that the presently claimed invention is unobvious over the Akira reference for the following reasons.

Differences between the invention and the prior art

Applicants refer to the differences between the present invention and the Akira reference, discussed above. Additionally as the Examiner admitted on page 3 of the Office Action, the Akira particles are amorphous.

In contrast, the aluminum salt hydroxide particles of the present invention have a crystal structure as indicated in the X-ray diffraction diagrams in Figures 28-32 of the present specification.

Applicants respectfully disagree with the Examiner that the present invention would be obvious to the skilled artisan. In view of the above, it submitted that the present invention as claimed is distinguished over Akira.

In light of the presently amended claims and remarks, because there is no disclosure, teaching, suggestion, reason or rationale provided in the Akira reference that would allow one of ordinary skill in the art to arrive at the instant invention as claimed, it follows that this reference is incapable of rendering the instant invention obvious under the provisions of 35 USC § 103(a). Based upon the above, and applying the *Graham factors* analysis test, it is submitted that a *prima facie* case of obviousness has not been established.

Therefore, Applicants respectfully submit that based on the above, the Akira reference neither anticipates nor renders obvious the present invention.

Applicants respectfully request reconsideration and withdrawal of the present rejection.

Issue Under 35 U.S.C. § 102(b), Anticipation

Claims 30, 31 and 36 stand rejected under 35 U.S.C. § 102(b) as anticipated by Akira.

The Examiner asserts that Applicants' methods of making do not claim a specific formula for the end product. Applicants respectfully traverse this rejection.

Although Applicants disagree with the Examiner's assertions, in order to advance prosecution, claim 30 has been amended to a method of producing organic acid anions containing aluminum salt hydroxide particles of claim 1.

Since Akira is silent regarding a method of producing organic acid anions containing

aluminum salt hydroxide particles where the particles contain a cation selected from the group consisting of Na^+ , K^+ and NH_4^+ , it does not teach the present invention.

Because “a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference,” the Akira reference cannot be a basis for a rejection under § 102(b). *See* MPEP 2131 – To Anticipate a Claim, the Reference Must Teach Every Element of the Claim, *supra*.

Applicants respectfully request reconsideration and withdrawal of the present rejection.

Issue Under 35 U.S.C. § 103(a), Obviousness

Claims 30, 31 and 36 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Akira. The Examiner asserts that it would have been *prima facie* obvious to start with the teaching of Akira to make additional generically disclosed compositions and expect the compositions to be useful in anion exchange. Applicants respectfully traverse this rejection.

Applicants incorporate the above comments concerning this reference.

Applicants respectfully submit that the Examiner has not appropriately resolved the *Graham* factors, including the factors of determining the scope and content of the prior art and ascertaining the differences between the prior art and the claims that are at issue. Based on the following, Applicants maintain that the above mentioned *Graham* factors actually work in Applicants' favor. Additionally, Applicants submit that since the Examiner did not resolve the *Graham* factors, the rationale the Examiner provides is improper.

Applicants respectfully submit that the presently claimed invention is distinct from and

unobvious over the Akira reference for the following reasons.

Differences between the invention and the prior art

As indicated above, the Akira reference particles are produced by reacting ZrCl_2 , $\text{Al}_2(\text{SO}_4)_3$ and $\text{Mg}(\text{OH})_2$ to obtain a co-precipitation product and thereafter heating the co-precipitation product in an autoclave (Example 1). The reaction discussed in Akira is carried out in two steps.

In contrast, the reaction within the present invention, as in claim 30, is carried out in one step. Therefore Applicants submit that the production method of the present invention is different from that of Akira.

For the Examiner's convenience, Applicants have summarized the differences between the present invention and the Akira reference below.

	The present invention	Akira
Cation	$\text{M}_a[\text{Al}_{1-x}\text{M}'_x]\text{b}$	M_aAl_{2x}
	$\text{M} = \text{Na}^+, \text{K}^+, \text{NH}_4^+$ $\text{M}' = \text{Cu}, \text{Zn}, \text{Zr}, \text{etc.}$ (M' is optional)	$\text{M} = \text{Al}, \text{Fe}, \text{Zr}, \text{Ti}$
X-ray diffraction	crystal	amorphous
Reaction	one step	two steps

Applicants also submit that the particles of the present invention have a uniform particle shape and particle diameter, show high dispersibility and low moisture absorbability, and have acid resistance (see the present specification at page 43, lines 1-26) which is not disclosed in Akira. Also, the Akira particles are used as an absorber of HPO_4^{2-} , CrO_4^{2-} , MnO_4^{2-} in waste

water (*See* Akira at paragraph [0001]).

Applicants respectfully disagree with the Examiner that the present invention would be obvious to the skilled artisan. In view of the above, it submitted that the present invention as claimed is distinguished over Akira.

In light of the above presently amended claims and remarks, because there is no disclosure, teaching, suggestion, reason or rationale provided in the Akira reference that would lead one of ordinary skill in the art to arrive at the instant invention as claimed, it follows that this reference is incapable of rendering the instant invention obvious under the provisions of 35 USC § 103(a). Based upon the above, and applying the *Graham factors* analysis test, it is submitted that a *prima facie* case of obviousness has not been established.

Therefore, Applicants respectfully submit that the Akira reference does not render obvious the present invention.

Applicants respectfully request reconsideration and withdrawal of the present rejection, and submit that all the rejections raised by the Examiner have been overcome, and that the present application now stands in condition for allowance.

CONCLUSION

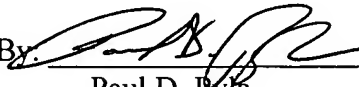
Thus, Applicants respectfully request a timely Notice of Allowance for the present case.

Should there be any outstanding matters that need to be resolved, the Examiner is respectfully requested to contact Paul D. Pyla at the telephone number below, in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized to charge payment or credit any overpayment to Deposit Account No. 23-0975 for any additional fees required under 37.C.F.R. §§1.16 or 1.17.

Respectfully submitted,

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